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THE FEEBLE-MINDED

THEIR PREVALENCE AND NEEDS IN THE SCHOOL
POPULATION OF ARKANSAS

BY

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THE FEEBLE-MINDED.

THEIR PREVALENCE AND NEEDS IN THE SCHOOL POPULATION OF ARKANSAS.¹

By WALTER L. TREADWAY, Assistant Surgeon, United States Public Health Service.

In recognition of the fact that the care of the mental defective has become quite generally the function of the State, the Fortieth General Assembly (1915) of Arkansas passed the following concurrent resolution:

That a commission of five persons, residents of this State, shall be appointed by the Governor, to investigate the conditions and needs of the feeble-minded in the State, the said commission to be known as the Commission for the Feeble-Minded. Approved March 25, 1915.

At the request of the commission thus appointed, and for the furtherance of general investigations of mental and school hygiene, an officer of the Public Health Service was detailed to make studies of the prevalence of feeble-mindedness in Arkansas for the purpose of assisting the commission in determining the needs of the State in regard to the feeble-minded.

Facts Pertaining to Mental Deficiency.

For many years mental disorders were looked upon with superstitious fear. The insane, therefore, were placed in prisons or other institutions, while mentally feeble children and adults were often subjected to abuse and neglect or cared for in almshouses and other places of confinement where no effort was made to render them useful to themselves or to society.

In 1800, however, an attempt was made by Itard, a physician at the National Institution for the Deaf and Dumb at Paris, to educate an idiot, "The Savage of Aveyron." Between 1800 and 1848 the care and education of the feeble-minded attracted considerable attention in France, Switzerland, Germany, and England, where schools for this class of individuals were established.

As early as 1818 the problem of the feeble-minded began to attract attention in the United States. During that year several idiots were admitted to the American Asylum for the Deaf and Dumb at Hartford, Conn., and an attempt was made to treat and educate them. In 1846 a bill for State care of the feeble-minded was introduced in the

¹ Reprint from the Public Health Reports, vol. 31, No. 47, Nov. 24, 1916, pp. 3231-3247.

New York Legislature. It was defeated, but passed two years later. Following this a private school for the education of the feeble-minded was opened at Barre, Mass.¹ By 1870 seven States had made some provision for the feeble-minded. These were Massachusetts, New York, Pennsylvania, Connecticut, Ohio, Kentucky, and Illinois, in the order named.²

During the period 1870-1915, 32 States made some provision for the care of the feeble-minded, while 10 private institutions for the care and training of the underaverage child, each with 50 or more beds, were established in 9 different States.³

Mental deficiency has been defined as a lack of normal mental capacity due to defective development of the brain. While by far the greater proportion of those who are mentally defective are so because of conditions which existed at birth or because of injuries sustained by the brain during birth, it is proper also to include those in whom mental development is arrested or retarded by illness or injury during the early years of childhood.

The most widely quoted definition of feeble-mindedness is that adopted by the Royal Commission appointed by the English Government in 1904, to investigate the conditions of the feeble-minded in the British Isles and is as follows: "The feeble-minded person is one who is capable of earning a living under favorable circumstances, but is incapable, from mental defects existing from birth or from an early age, of competing on equal terms with his normal fellows or managing himself or his affairs with ordinary prudence."⁴

The American Association for the Study of the Feeble-minded tentatively adopted the following: "The term feeble-minded is used generically to include all degrees of mental defect due to arrested or imperfect mental development, as a result of which the person so afflicted is incapable of competing on equal terms with his normal fellows or managing himself or his affairs with ordinary prudence."

Witmer does not attempt a full definition in one or two sentences, but some idea may be gathered from the following: "The defectives

¹ Institution for the Education of Idiots, Imbeciles, and Children of Retarded Development of Mind. Jan. 1, 1851, pp. 18-19. By Dr. H. B. Wilbur, Barre, Mass.

It is of interest to note the following from the first report of that institution (1851) relative to the purpose for which it was inaugurated. "It aims to nourish and encourage the growth of what may be mere germs of functions and faculties, to direct those functions and aptitudes in the natural channels of physical and mental labor, and to give to the subjects of it the greatest possible resemblance to children well endowed and properly educated. * * *

"It seeks by the constant and persevering use of every variety of moral means to render those newly acquired powers and faculties subservient to an enlightened sense of relations to the moral world."

² "History of Treatment of the Feeble Minded," by Walter E. Fernald, M. D. Report of the Proceedings of the 20th National Conference of Charities and Correction.

³ Public Institutions for the Feeble Minded and Epileptic in the United States, by National Committee for Mental Hygiene, New York.

⁴ Definition by Royal College of Physicians, London.

are those who have so many and such severe mental defects that they are unable to overcome these defects as a result of expert training and must therefore reach adult age arrested in mental and moral development, industrially incapable of earning a modest livelihood and socially a menace oftentimes to themselves and their families and always to society, either by virtue of their own behavior or their retained capacity to reproduce their kind."

The condition of feeble-mindedness varies from the most profound degree, in which there is but a glimmer of intelligence, to that in which the defect is apparent only in the highest levels of mental activity and which is not incompatible with the ability to acquire a large store of information nor to earn a living.

Those engaged in educational work usually prefer a classification which is based upon a comparison between the actual age of the person in question and his "mental age." The average mental development of normal children at different ages has been determined largely by various psychological tests, the best known and most widely used being the Binet-Simon tests. These tests were devised empirically by determining a group of tests which a child of normal mental development for a given age would be expected to pass. They were afterwards used for the purpose of grading a group of mental defective persons in terms of "mental age" in order that they might be classified for purposes of education. These tests have since been modified and revised for the purpose of grading in terms of "mental years," the mental development of school children, inmates of prisons, reformatories, and other institutions.

By this method of "mental age" classification the feeble-minded have been divided into three groups: Idiots, whose mental age is below 3 years; imbeciles, whose mental age is between 3 and 7 years; and morons, between 8 and 12 years. This classification has been adopted by the American Association for the Study of the Feeble-Minded.

In recent years there has been a tendency to include higher and higher grade cases in the feeble-minded group. In some instances this has resulted in placing persons in environments ill suited to them.

It is a well-known fact that children who are retarded and far below the average intelligence at an early period may as they grow older catch up a year or two in mental growth. The fact that a child grades below the average by formal tests is not an infallible sign that he will never develop beyond the mental attainments of a child. An analogy is found in the retarded physical development of certain children.

There is good reason for including in the feeble-minded group only those children whose mental retardation is not complicated by faulty

training or physical disorders. In other words, as feeble-mindedness is incurable, to place the doubtful feeble-minded group as incurable might, in the light of present conditions, stigmatize the child and family. Many of these cases resemble the feeble-minded if the statistical results of formal tests are taken as a basis for diagnosis.

There is still another group with a low average normal intelligence, composed of individuals of poor intellectual development, but still regarded as normal—"Not tainted but dull." Mental inferiority of this type is more or less a constitutional trait that can not be regarded as feeble-mindedness.

The physical growth of the feeble-minded child is often superior to his mental development, so that when he reaches adolescence the sad combination of his childish mind and adult body brings him into conflict with laws, rules of conduct, and customs of society arranged for normal adults. Thus we often find that the feeble-minded are delinquent and criminal because they are unable to comprehend laws or control their acts. They are easily influenced to commit crime and often become the prey of the stronger. They easily acquire vicious habits and not infrequently become addicted to alcohol and drugs. Incapable of providing for themselves they soon become dependent upon charity.

The feeble-minded are often sexually immoral because they are unable to guard themselves against the advances of others or to deal with the problem of their own sexual life as the standards of the community require. Some of them become perverts and prostitutes. It has been shown by recent studies conducted by the United States Public Health Service that 19 per cent of the inmates of an institution for the care of illegitimately pregnant girls were feeble-minded.¹ In almost every almshouse in this country may be found a few feeble-minded women who have given birth to one or more feeble-minded children. Not they alone, but their progeny as well are a burden upon the community.

Although the prevalence of mental deficiency is not known, a number of estimates have been made as a result of careful observations of different groups of the population. For example, it is estimated that 5 to 15 per cent of those confined in prisons, penitentiaries, jails, and workhouses are feeble-minded. Wide variations exist as to the prevalence of feeble-mindedness in the juvenile delinquent classes.

Recent studies conducted by the United States Public Health Service have shown that 9 in every 1,000 American rural school children are feeble-minded.²

¹ Not published.

² "Rural School Sanitation including Physical and Mental Status of School Children in Porter County, Indiana. Public Health Bulletin No. 77."

Since the study of the Royal Commission of England (1904) it has been assumed that two out of each 1,000 in the general population are feeble-minded. On the basis of this estimate it is likely that 500,000 feeble-minded persons are present in the United States to-day.

According to the National Committee for Mental Hygiene there were in 1915, 33,474 beds especially provided by the various States for the custody and training of the feeble-minded.¹ The existence of such a large number of persons who are children in mental attainments but for the most part men and women in actual years constitutes a problem of great importance.

So intimately associated is the problem of mental deficiency with crime, poverty, disease, delinquency, immorality, and other social ills, that health authorities, educational authorities, and the courts are deeply interested in a satisfactory solution.

Scope of the Survey in Arkansas.

The relation of mental deficiency to delinquency, dependence, and immorality, is vastly more important in the years of adult life than in childhood, but the phases of the problem as they present themselves in the years of school life are more readily manageable. The school population, therefore, constitutes the larger group to which access for satisfactory investigation can be had.

It was impossible in the time allotted to visit all the schools or to examine every child of school age in the State. In order, therefore, to strike an average for the State, a number of counties were chosen in which to conduct these studies. Certain sociological conditions, educational opportunities, and public-health considerations influenced the selection of the counties to be surveyed. Of these due consideration was given to their isolation, to the per capita wealth, to compulsory school attendance, to literacy, to the percentage of native-born population, to the presence of foreign immigration, and to a wide prevalence of or freedom from malaria and hookworm disease in endemic form. The counties and districts surveyed represented each of these conditions or its opposite.

Great harm has resulted from statements as to the prevalence of mental deficiency, which were not based upon actual observation. During the course of this survey, therefore, cases concerning which there was considerable doubt were not included in the enumeration of the feeble-minded.

Certain phases of the problem of mental deficiency stand in such close relationship to school hygiene that it was thought desirable to

¹Public Institutions for the Feeble Minded and Epileptic in the United States, by National Committee for Mental Hygiene, New York.

include also in these investigations a survey of school environment. The results of the latter studies will be set forth in a subsequent report.

Methods Employed.

As the object of this survey was to determine primarily the prevalence of feeble-mindedness in the school population, the plan adopted was as follows:

In each school visited the children passed the examiner in single file to have their eyelids inspected for trachoma. Each child was, therefore, personally inspected. During the course of this primary inspection a certain group of children was selected for further inquiry regarding mental development. Their general manner and conduct of approaching the problem of having their eyes inspected, their gait, and manner of adjusting themselves to the new situation, served as a guide to selection of a group for further inquiry. The facial expression, stigmata, and general reaction in the emotional field, overage, character of physical development or abnormalities also played a part in their selection.

In addition, the teacher was asked to select the children who appeared slow, stupid, peculiar, underaverage in mental attainments, or who had difficulty, for any reason whatsoever, in doing classwork. The subsequent examination of these children showed that many of them were not retarded.

In order to see in a short time a large group of children representative of a community, it is necessary to adopt some rapid method and the plan outlined above seems to be practical and consistent with accuracy. It not only lends the weight of one who has had some experience with the underaverage and normal child, but is supplemented by the opinion of the teacher who has had an opportunity of observing from day to day and, in some instances, from year to year, the mental adjustment during the growth of the child.

Each child so selected was graded according to the Binet-Simon scale of grading intelligence. Arbitrary standards, based upon the statistical results of this scale, however, have resulted in classifying children as feeble-minded when such is far from being true. The individual approach to the diagnosis of feeble-mindedness is the one to be recommended, rather than that based upon statistical standards of the results of a series of psychological tests. Individual approach must include some knowledge of the child's environment, heredity, presence of disease, stigmata, the general emotional reaction, his grasp of the situation, his general knowledge, his adjustments, and his method of arriving at conclusions, all of which are significant in the diagnosis of feeble-mindedness. This method, supplemented by formal tests, is conservative and accurate.

Prevalence of Feeble-Minded in the Rural Districts Visited in Thirteen Counties of Arkansas.

Fifty-one rural schools were visited in 13 counties during this survey. Of this number, 9 were one-room schools and 42 were of more than one room.

TABLE 1.—*Showing percentage of feeble-minded children in rural schools visited in Arkansas.*

Counties.	Number of schools visited.	Number of boys examined.	Number of girls examined.	Number of feeble-minded boys.	Number of feeble-minded girls.	Number of both sexes enrolled in schools visited.	Per cent of attendance.	Per cent of feeble-minded boys.	Per cent of feeble-minded girls.	Per cent of feeble-minded both sexes.
Bradley.....	6	241	272	2	2	513	100	0.8	0.73	0.77
Benton.....	4	324	358	2	3	1,087	71	.6	.5	.51
Columbia.....	4	362	373	3	3	837	87	.85	.8	.83
Clark.....	3	296	234	2	3	770	68	.67	1.2	.94
Chicot.....	4	196	213	2	1	505	80	1	.....	.48
Garland.....	5	114	111	4	1	434	51	3.5	.9	2.2
Grant.....	4	256	289	5	2	824	66	1.9	.6	1.2
Jefferson.....	4	66	87	1	1	154	99	1.5	.....	.65
Little River.....	4	298	339	2	1	807	78	.67	.29	.47
Miller.....	3	68	85	.....	1	200	76	.....	1.1	.6
Polk.....	4	128	129	.....	.....	465	53	.....	.....	.....
Pulaski.....	3	80	105	.....	.....	258	71	.....	.....	.....
Sebastian.....	3	239	238	1	1	832	57	.4	.4	.42
Total.....	51	2,668	2,832	24	17	7,905	.....	.89	.6	.74

Referring to Table 1, it will be observed that the percentage of feeble-mindedness varied from none to 3.5 per cent of the boys and from none to 1.2 per cent of the girls. Of two counties, namely, Polk and Pulaski, where no feeble-minded children were found, one had a compulsory school-attendance law and the other had not. In the county requiring compulsory school attendance 53 per cent of the children were present at the time the schools were visited, and in the county which did not require compulsory school attendance 71 per cent of the total enrollment was present. It is evident, therefore, that the percentage of feeble-mindedness is either very low in these counties or else such children did not attend school. The latter assumption is probably correct.

In Jefferson County, with county supervision but without a compulsory school-attendance law, 99 per cent of the children attended school and no feeble-minded girls were found.

In Chicot County, without county supervision, no feeble-minded girls were observed, although 80 per cent of the total enrollment was present on the day of inspection.

The highest percentage of feeble-mindedness among the boys in the schools visited was observed in Garland County, which had both a compulsory-attendance law and county supervision. The per-

centage of feeble-mindedness among the girls was also relatively high. The highest percentage of feeble-mindedness among the girls was found in Clark County, which had neither a compulsory school-attendance law nor supervision, although the attendance was 68 per cent of the enrollment.

Unfortunately, the data relative to the nativity of the children examined was so meager and unreliable that it was impossible to draw conclusions as to the relationship of domestic and foreign immigration to the number of feeble-minded in the school population. In general, the rural districts of Polk County are affected more heavily by domestic immigration than are similar districts in Garland County.

The varying sociologic and economic conditions in the districts visited warrant conclusions as to the proportion of feeble-mindedness in the rural school population of the State but not for the purpose of comparing one county with another.

The enrollment in the 51 rural schools visited was 7,905, of which number 5,500 (2,668 boys and 2,832 girls) were present and inspected. Of these, 24 boys, or 0.89 per cent, and 17 girls, or 0.6 per cent, comprising 0.74 per cent of the rural school population examined, were feeble-minded.

Prevalence of the Feeble-Minded in the Urban Districts of Arkansas.

A glance at Table 2 will show that of the 8,225 children (4,189 boys and 4,036 girls) examined in the urban districts of Arkansas, 52 (28 boys and 24 girls) were found to be mentally defective. The percentage ranges from 0.37 to 0.9 per cent. The percentage of feeble-minded in this group of the population should be somewhere between these two extremes. The average for the 20 urban schools visited is 0.63 of 1 per cent.

TABLE 2.—*Showing Percentage of feeble-minded children in the urban districts of Arkansas.*

City.	Number of boys examined.	Number of girls examined.	Number of feeble-minded boys.	Number of feeble-minded girls.	Number of both sexes enrolled in schools visited.	Total enrolled first to eighth grades 1915-1916.	Per cent of feeble-minded boys.	Per cent of feeble-minded girls.	Per cent of feeble-minded both sexes.
Little Rock.....	1,596	1,522	8	4	3,327	5,828	0.5	0.26	0.37
Fort Smith.....	1,087	1,004	11	8	2,171	3,281	1.0	.9	.9
Hot Springs.....	482	465	4	5	1,010	2,531	.85	1.0	.9
Pine Bluff.....	383	373	2	3	804	2,400	.52	.8	.66
Texarkana.....	146	137	.....	1	337	1,200	.....	.72	.7
Arkadelphia.....	218	234	1	2	440	440	.46	.85	.6
Siloam Springs.....	189	200	1	1	509	509	.52	.5	.5
Mena.....	88	101	1	.....	410	410	1.1	.....	.5
Total.....	4,189	4,036	28	24	9,008	16,599	.....	.....	.....

Problematical or Border-Line Feeble-Minded Cases in the School Population.

Since retardation may be due to physical diseases, faulty methods of training, and influences of environment, children who are retarded as much as three years according to formal tests alone can not be classified as feeble-minded. Children of this type are regarded as doubtful cases of feeble-mindedness, which require correction of physical defects, special instruction, training, and observation over extended periods before a definite diagnosis can be made. Some of them become normal, while the rate of mental development of others continues slow as the higher chronological ages are reached.

Unfortunately there is no method of ascertaining the length of time required for a child to overcome his mental retardation after the defects have been corrected.

Of 4,189 boys inspected in the urban schools, 22 were border-line cases; and of 4,036 girls inspected, 13 were observed whose future mental development could not be foretold, but who were regarded as border-line cases. In other words, 0.52 per cent of the boys and 0.32 per cent of the girls were in need of specialized training, although the term feeble-minded could not be applied to them as the result of one examination.

Of the 22 boys whose future mental development is a matter of doubt, 9 were poorly nourished and below par physically, 1, although well nourished, was undersized to such an extent that his chronological age was questioned, 1 had chronically diseased tonsils, and 1 had a marked post-nasal obstruction. Of the 13 girls who were doubtful as to outcome, 2 had very defective vision, 2 had enlarged and chronically diseased tonsils, 1 had post-nasal obstructions, and the nutrition of 2 others was poor.

In the 42 rural schools having more than one room, 10 boys of 2,512 examined and 9 girls of the 2,658 examined were regarded as border-line cases, varying from none to 1 per cent of the boys and from none to 2.5 per cent of the girls—an average of 0.39 per cent of the boys and 0.33 of the girls for the total number examined. In other words, 0.36 per cent of the children examined in these schools were border-line cases.

Of the 10 boys of doubtful mental development, 2 were much undersized. One, although not retarded to a marked degree, had a feeble-minded sister, and 1 who was retarded to a slight degree had a feeble-minded brother.

Of the girls who were doubtful as to outcome, one was too large for her chronological age, the mother of another was an epileptic, and one, retarded in slight degree, had two feeble-minded brothers.

In 9 one-room schools having an enrollment of 516 children, with 156 boys and 174 girls attending, 3 boys and 1 girl were doubtful as

to outcome. Of these, 2 came from very poor environments and had chronically diseased tonsils, and 1 began school late and came from a very poor environment. The percentage of border-line cases in the one-room schools was 1.9 per cent of the boys and 0.5 per cent of the girls, an average of 1.2 per cent.

Of the 5,500 children (2,668 boys and 2,832 girls) examined in the rural districts, 13, or 0.48 per cent, of the boys and 10, or 0.35 per cent, of the girls, or 0.4 per cent of the total examined, were regarded as border-line cases.

The undue retardation exhibited by the above-mentioned children is the determining factor in the classification. In view of the fact that only 0.36 per cent of the children attending the better class rural schools, in contrast with 1.2 per cent of those attending the one-room rural schools, were so classified, suggests the possibility that these border-line cases may be cases of simple retardation due to faulty teaching methods or poor environment rather than to an inherent mental defect.

Proportion of Feeble-Minded in the School Population of the State of Arkansas.

The prevalence of feeble-mindedness in the rural districts is high in both Grant and Garland Counties. In the urban districts of Garland County it is higher than in other urban districts of the State. The distribution of mental defectiveness in the combined urban and rural districts of the State varied from 0.18 per cent to 1.5 per cent in the counties surveyed. Of 13,725 children examined, 93, or 0.67 per cent, are definitely feeble-minded.

As the districts visited are believed to be representative of the varied social and economic conditions of the State and to embrace a representative population, the determination of 67 feeble-minded children in every 10,000 school children of the State is considered as representative of the prevalence of this condition.

The existence of 67 feeble-minded children in every 10,000 is not an overestimate because of the presence of border-line cases. These were observed in the proportion of 40 in every 10,000 of the school population. Furthermore, the lower grade feeble-minded cases do not attend public schools. Especially is this true in the case of idiots and low-grade imbeciles who do not attend school because of the lax enforcement of the compulsory school attendance law resulting from an incomplete school census.

According to the 1910 census report, there were in Arkansas 345,282 white children between the ages of 6 and 14 years. In 1910, 241,938, or 70.1 per cent, of these were attending the public schools. In 1913 (last report of State board of public instruction) there were 317,386 white children enrolled in the schools of Arkansas. Of this

number 208,490, or 62 per cent, were attending school. Based on the results of this survey and the attendance in 1913, there are not less than 2,100 of the white children who are feeble-minded. Calculated upon basis of the 1910 census report, not less than 2,200 of the white children between the ages of 6 and 14 years are definitely feeble-minded.

The mortality rate among the feeble-minded is high. This is probably due to failure to understand the principles of personal hygiene, and to irregular employment, improvidence, and bad housing. Clark,¹ in the study of 1,000 feeble-minded children, showed that the greatest number died under 25 years of age, 30 lived to be over 35, 17 to be over 40, and only 4 over 50 years of age.

Clark and Stowell,¹ during a period of nine years (1903 to 1911), cared for 4,275 patients, 2,667 classified as feeble-minded and 1,608 as idiots. Of the first group, 184, or 6.5 per cent, died. Of the second group, 316, or 19.6 per cent, died. During the same period, at the same place, the mortality rate among 8,000 children mentally normal was 3.38 per cent. These authors conclude that low mental development coincides with low physical stamina.

According to Clark and Atwood, one-fifth of the children who are feeble-minded die in less than one year. Among 200 feeble-minded children Atwood found 20 per cent with positive Wasserman reaction, although syphilis was not recognized as a factor in any of the deaths. If it be true that the mortality rate is unusually high in this group of the population, it is likely that 30 in every 10,000 of the general population are feeble-minded.

In 1915 the estimated white population of Arkansas was 1,229,987. According to this estimate the present survey would show that there are 3,600 persons in the general population of the State of Arkansas who are definitely feeble-minded.

Evidence is accumulating to show that heredity is a prominent factor in mental deficiency. It is estimated from careful observations that 65 per cent of feeble-mindedness is inherited. If it be considered that 50 per cent of feeble-mindedness in Arkansas is due to defective ancestry, there are at least 300 families in that State whose progeny will be feeble-minded. One family in every 300 is composed of potential criminals, dependents, disseminators of disease, and is an economic loss to the community in which it lives.

Prevalence of Retarded Children Exclusive of the Feeble-Minded and Border-line Feeble-Minded in the Schools of Arkansas.

Retarded children are found in every large school system. The teachers, as a rule, recognize many children who do not profit by the

¹ "Feeble Minded and Idiots, a Study of the Mortality of Four Thousand." By Clark and Stowell. N. Y. Med. Jour., Vol. XCVII, 2-22-13, p. 376.

usual course of study. The following table gives the per cent of retarded children in urban districts who require the correction of physical disorders and faulty methods of training before they will be able to compete on equal terms with the average normal children.

In the rural districts those who require special training and medical attention range from none to 2.5 per cent of the boys and none to 3 per cent of the girls in the schools visited. Of the 2,668 boys examined in the rural districts 49, or 1.8 per cent, were retarded. Of the 2,832 girls examined in the rural districts 45, or 1.6 per cent, were retarded.

Of the 49 boys of the rural schools who were retarded, 1 was poorly nourished, 1 had adenoids, 1 had diseased tonsils and adenoids, 2 had speech defects, 2 had epilepsy, 1 had had an attack of typhoid fever, since which he had been very dull mentally. Of the 45 girls who were retarded 3 had defects of vision, 4 were very poorly nourished, 3 had had recent malarial paroxysms and were probable malarial carriers, and 2 had diseased tonsils.

TABLE 3.—*Showing percentage of retarded children in urban districts exclusive of feeble-minded and border-line cases who do not profit by usual course of study.*

Cities.	Number of retarded boys.	Per cent boys retarded.	Number of retarded girls.	Per cent girls retarded.
Little Rock.....	16	1	9	0.5
Fort Smith.....	17	1.5	12	1.1
Hot Springs.....	14	2.9	8	1.7
Pine Bluff.....	3	.7	12	3.2
Texarkana.....	2	1.3	5	3.6
Arkadelphia.....	2	.9	3	1.2
Siloam Springs.....	4	2.1	3	1.5
Mena.....	4	4	1	.9
Total.....	62	1.4	53	1.3

Of the 62 boys in the urban districts who were retarded and unable to profit by the usual course of study, 3 had defects of vision, 2 had defects of hearing, 5 had adenoids, 1 was very anemic, 1 had epilepsy, 1 was a "shut-in personality," 1 began school late in life, 1 had cleft palate, 4 had speech defects, 1 was a deaf-mute, 4 were dependent and had suffered privation, and 1 was delinquent.

Of the 53 girls who were retarded and unable to profit by the usual course of study, 1 had defects of vision, 1 defects of hearing, 1 had adenoids, 2 had enlarged and diseased tonsils, 1 had adenoids and enlarged tonsils, 4 were very anemic (3 of whom had had recent malarial paroxysms), 1 had a "shut-in personality," 1 had chorea, 2 were victims of poverty, and 3 were delinquent.

Physical Disorders of Children Not Definitely Retarded But Who Were Slower Than the Normal.

Children who are handicapped by physical disorders should have these corrected in order to secure the maximum efficiency. In the urban districts, 223 boys and 171 girls were slow, but not definitely retarded. Of this number 43, or 19.2 per cent of the boys, and 27, or 15.8 per cent of the girls, had some physical disorder which potentially made them candidates for the special classes.

In the following table is given the percentage of physical disorders in the boys and girls of the urban districts who were slow in their school work.

TABLE 4.—*Physical disorders of underaverage children in urban districts of Arkansas.*

	Boys.	Girls.		Boys.	Girls.
Adenoids.....	3.1	1.7	Undersized.....	0.8	.....
Tonsils enlarged and diseased.	2.6	1.7	Anemic.....	2.6	2.3
Tonsils and adenoids.....	.4	.....	Speech defects.....	1.7	2.8
Defects of hearing.....	.8	.....	Chorea.....	1.3	.....
Defects of vision.....	4.8	4.6	Paralysis.....	.....	2.3

Of the 2.6 per cent boys who were anemic 1.3 per cent had had recent malaria and were probably carriers. Of the 2.3 per cent girls who were anemic 1.7 per cent had had recent malaria.

Of the 2.3 per cent girls who had some form of paralysis 1.7 per cent of the cases were due to poliomyelitis.

In the rural districts visited, 162 boys and 125 girls were slow in their school work, but were not regarded definitely retarded. Thirty-one, or 19 per cent, of the boys and 15, or 12 per cent, of the girls had some physical disorder.

In the following table is given the percentage of physical disorders observed in the boys and girls in the rural districts who were slow in their school work, but not definitely retarded.

TABLE 5.—*Physical disorders of underaverage children in rural districts of Arkansas.*

	Per cent boys.	Per cent girls.		Per cent boys.	Per cent girls.
Adenoids.....	2.4	1.6	Undersized and underweight.	4.9	.....
Tonsils enlarged and diseased.	3	.8	Suspected of syphilis.....	.6	.....
Tonsils and adenoids.....	.6	.8	Chorea.....	.6	.....
Defects of hearing.....	2.4	.....	Anemic.....	.....	3.2
Defects of vision.....	5.5	4.8	Goiter.....	.....	.8

Of the 3.2 per cent girls who are anemic 1.6 per cent or half had had recent malaria.

TABLE 6.—*Showing percentage of total children examined who require special training.*

City.	Per cent boys.	Per cent girls.	City.	Per cent boys.	Per cent girls.
Little Rock.....	1.8	1.2	Arkadelphia.....	1.8	2.5
Fort Smith.....	3.2	2.1	Siloam Springs.....	2.5	2.5
Hot Springs.....	4.1	3.4	Mena.....	5.2	.9
Pine Bluff.....	2.3	4.2			
Texarkana.....	2.7	4.3	Total.....	2.6	2.4

In the urban districts, 7.2 per cent of 8,225 children were given the benefit of individual and intensive inquiry. Of 5,500 rural school children examined 9 per cent were given individual and intensive inquiry. Of the 5,500 children examined in the rural districts 2.8 per cent are unable to profit by the usual course of study.

What Has Been Done in Arkansas to Provide Special Instruction for the Underaverage Child.

It will be observed in Table 6 that the percentage of underaverage children is lowest in Little Rock, where a summer school is provided for the children who fail to make grade. This city also provides one special class for exceptionally backward children. The summer school must certainly play some part in lessening the number of cases of retardation. The special class in this city for exceptionally backward children is a step in the right direction. The equipment of the building is poor. These children should have the benefit of working under the best possible conditions. Good tools and proper surroundings add not only to industrial efficiency but to the efficiency of children in their school work. Little Rock is the only city in the State where special classes for children of this type are provided.

Discussion and Recommendations.

Care of the feeble-minded.—The proper segregation of the feeble-minded by the State will add in future years to the welfare of each and every community. At present many cases of feeble-mindedness are housed in the State institutions for the insane. The per capita cost for caring for the insane in this country varies from \$150 to \$250 per annum. In the case of feeble-minded persons who are cared for in institutions for the insane, no attempt is made to train them and no good opportunity is presented whereby they may be made to pay for their support. In the better regulated American institutions for the feeble minded, an attempt is made to train this class of individuals so that they may be in a measure self-supporting.

The authorities of the State Hospital for Nervous Diseases at Little Rock estimate that not less than 100 of the inmates are feeble-minded who will always be a burden upon the Commonwealth either inside or outside the institution. With a per capita cost of \$200 per

annum, \$20,000 is annually expended for their care. These cases occupy beds which are intended for the insane and at a greater cost than in an institution especially provided for their care.

The feeble-minded are unable to follow regular employment and therefore add to the number of "floating" or irregular employees. Owing to their tendency to become criminals and paupers, and to their inability to comprehend the principles of right living and personal hygiene, this group of individuals forms a large proportion of the penal population and adds materially to the spread of communicable diseases. From an economic, sanitary, and sociological standpoint the State of Arkansas should provide an institution for the segregation, care, and training of its feeble-minded.

Children who require individual care and recasting of educational methods.—It is believed that the recasting of educational methods will serve a true purpose in mental hygiene. Certain individuals who, by reason of an inability to adjust themselves to unusual conditions, are failures because they attempt tasks for which they are but poorly fitted by reason of improper training in early life.

The underaverage child in the regular classes does not profit by the usual courses of study. His presence demands extra attention from the teacher that might better be devoted to the children of normal intelligence. Children who lag in class work tend to prevent normal children from advancing as rapidly as they are otherwise capable of doing.

Organization of special classes.—It is essential to know the number of retarded and mentally defective children in a community before the organization of special classes can be accomplished. Opinions differ as to the best way to organize such classes. In general, it is good policy to place the decision in the hands of the supervisor of special classes and permit her to effect an organization in accordance with her own knowledge of local needs and local difficulties. Some authorities regard each special class as a diagnosis station as well as a place for special training. Others advise the establishment of a central class for diagnosis and classification, and that the children should be admitted to the special classes only after a period of observation in the central class to determine the degree of mental defect and capacity to receive training.

The great advantage of the former plan is that each class will have a constant inflow and outflow which tends to prevent the rather hopeless attitude that sometimes exists in these classes, while at the same time it adds much to the experience and training of the teachers who are to devote themselves to this work. It is the experience of every city in which special classes have been established that nearly as many children go back from the observation class to the regular classes

after the correction of some physical defect or the use of some special methods of instruction as remain in special classes during their school life. The children who return to the regular classes are not mentally defective. It is a point not to be forgotten that mental deficiency is not a curable condition, and that the function of the special class is not to attempt to make mentally defective children normal, but to fit them to be happier and more useful even though handicapped by a defect that can not be removed.

It would seem desirable in cities to establish the first special class at the city training school, if there be one, and to use it for both a diagnosis and classification station and a class for special training. It should contain not more than 15 pupils, and pupil teachers should be assigned to assist the supervisor. Thus the first class will form a clinic in which those who are to undertake work in classes formed subsequently may be trained. A number of these pupil teachers who pass through this class develop qualifications needed for this work and, what is of greater importance, a sincere interest in its aims that is essential in all those who are successful in this field of pedagogy.

Every facility should be given teachers who take up this work to increase their information and experience. Visits to the State institutions and summer work at one of the many excellent schools which give special instruction in the subject of mental deficiency should constitute features in their training.

The adoption of such a program by a progressive city needs no defense at the present time. There are but few cities in which steps are not being taken to organize this work. Some of the results will be immediate and striking and some will be remote but none the less important.

Among the first results will be the immediate relief experienced by all the regular classes. Many hours that teachers now devote to pupils with defective brains will be available for the better instruction of normal children. Many children who are not mentally defective but who have faulty habits of work, dependent upon early defects, or training, or physical disturbances, will have their mental processes carefully studied by modern scientific methods and will be enabled to return to the regular classes with defects corrected and latent mental resources liberated. The mentally defective children will be placed in an environment in which they are not misfits and in which they can be trained to the limits of capacity which their mental defects impose. In some cases they will be trained for happier and more useful lives in the community; in others they will be fitted for the institutional life which all States must sooner or later provide for children who can never take up the tasks and responsibilities of adult life.

One of the most necessary factors in dealing effectively with the problem of mental deficiency in the schools is an adequate school census. Such a census is indispensable as a basis for the enumeration of the mentally defective and to determine the relation of mental deficiency to truancy and other forms of juvenile delinquency.

Medical inspection of school children.—The medical inspection of school children should not only act to prevent the spread of communicable diseases, but serve also to discover the children who require correction of physical disorders. Children with physical disorders are potential candidates for the special classes. Not only are they slow but they often fail to make grades.

This survey has shown that there are 327 boys and 237 girls, exclusive of the feeble-minded, who are either borderline cases or retarded cases, or are slow in school work. Thirty-one per cent of these boys and 29.6 per cent of these girls have some physical disorder. Of the 221 boys and 179 girls who are border-line and definitely retarded cases, 16.3 per cent of the boys and 13.3 per cent of the girls have some physical disorder. It is not assumed that these physical disorders are the sole cause of retardation, but they are an added handicap that plays no small part in preventing them from working with maximum efficiency.

The time lost from school and the repetition of school work from year to year not only illy fits these children for future life work, but adds materially to the cost of education.



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